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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,489	09/29/2003	Sergei Vasilievich Borodaev	P69119US0	8483

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EXAMINER
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BRUENJES, CHRISTOPHER P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/671,489

**Applicant(s)**

BORODAEV ET AL.

**Examiner**

Christopher P. Bruenjes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20031120</u> . | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Specification***

1. The abstract of the disclosure is objected to because the abstract is required to be one paragraph and the abstract provided is two paragraphs. Correction is required. See MPEP § 608.01(b).

***Claim Objections***

2. Claims 4 and 7 are objected to because of the following informalities: Both claims have a Markush group type structure but are written awkwardly. It is suggested for claim 4 to rewrite the claim to read "wherein the hydrophilic compound is a homopolymers and/or copolymer selected from the group consisting of vinylpyrrolidone, vinyl alcohol, alkyloxazoline, alkylene glycols, acrylamide, alkylene oxides, acrylic acid, methacrylic acid, maleic anhydride, vinyl alcohol ethers, vinyl alcohol esters, and cellulose ethers." Note also in claim 4 the "metacrylic acid" appears to be a typing error and should be "methacrylic acid". It is suggested for claim 7 to rewrite the claim to read "wherein said low-molecular substances are selected from the group consisting of inorganic salts and salts

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with an organic anion and an inorganic cation." Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation "in an amount of 4.5-50.0 wt%" in line 4, renders the claim vague and indefinite because it is not understood what the wt% is based on. Specifically, does the component include that weight percent of hydrophilic compound or is the component completely a hydrophilic compound and the component is found in the film in a weight percent claimed.

Regarding claim 6, the limitation "low-molecular substances" in line 3 renders the claim vague and indefinite because it is not understood what is considered "low-molecular". Is this referring to the molecular weight? Furthermore, it is

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not understood what would be considered "low". Since how high or low the molecular is, is relevant to what molecular level is considered the basis for determination.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Strutzel et al (USPN 4,243,074).

Regarding claim 1, Strutzel et al anticipate a polymer film for food products comprising a polyamide matrix and a hydrophilic compound in an amount of 2 to 40 percent by weight of the film (see abstract). Strutzel et al further teaches embodiments having a blend of specifically polyamide 6 and polyvinyl alcohol in the same blend composition as the claimed invention. Therefore, since products of identical chemical composition cannot have mutually exclusive properties, a chemical composition and its properties are inseparable. Thus, in this case, because the composition is the same between the

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film of Strutzel and the film of claimed invention, the film of Strutzel inherently has high permeability to smoke substances and the polyvinyl alcohol forms a highly dispersed phase with a linear domain size of 0.1 to 3.0 micrometers in a direction perpendicular to a plane of the film and the film would be capable of mixing with at least 10wt% water.

Regarding claims 2-3, the polyamide matrix is an aliphatic polyamide containing 6 carbon atoms in each unit and the preferred polyamide is polyamide 6 (col.4, 1.13-17).

Regarding claims 4-6, the hydrophilic compound is polyvinyl alcohol, which is water-soluble and is a low molecular substance (col.4, 1.7-12).

Regarding claims 9-11, the film is non-oriented, single-axis oriented or oriented in more than one direction which anticipates at least biaxial orientation (col.4, 1.45-51).

Regarding claim 12, the film is used to form a tubular casing or packet packaging for food products (see abstract).

5. Claims 1-2, 4-8, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Julius (USPN 3,329,509).

Regarding claim 1, Julius anticipates a polymer film for food products (col.1, 1.13-14) comprising a polyamide matrix (col.1, 1.59-61 and col.2, 1.3) and a hydrophilic compound in an

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amount of 7-20 percent by weight of the film (col.2, 1.40-42). The hydrophilic compound provides high permeability in respect to smoke substances and water vapors (col.1, 1.47-53). Julius further teaches embodiments having a blend of nylon, which is an aliphatic polyamide and polyvinyl alcohol, cellulose ethers, or aluminum silicates (col.2, 1.14-25) in the same blend composition as the claimed invention. Therefore, since products of identical chemical composition cannot have mutually exclusive properties, a chemical composition and its properties are inseparable. Thus, in this case, because the composition is the same between the film of Julius and the film of claimed invention, the film of Julius inherently the polyvinyl alcohol forms a highly dispersed phase with a linear domain size of 0.1 to 3.0 micrometers in a direction perpendicular to a plane of the film and the film would be capable of mixing with at least 10wt% water.

Regarding claim 2, the polyamide matrix is nylon, which is an aliphatic polyamide (col.2, 1.3).

Regarding claim 4, the hydrophilic compound is polyvinyl alcohol or cellulose ether such as carboxymethylcellulose or cellulose glycolate (col.2, 1.19-23).

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Regarding claim 5, although especially the cellulose ethers are not soluble in cold water they are soluble in hot water so they are still water-soluble (col.2, 1.21-23).

Regarding claims 6-7, in at least one embodiment the hydrophilic compound is a water-soluble low-molecular substance such as aluminum silicate, which is an inorganic salt (col.2, 1.23-25).

Regarding claim 8, the film includes plasticizers, and/or dyes, and/or pigments, and/or stabilizer additives (col.3, 1.7-10).

Regarding claim 12, the film is used to form a tubular casing or packet packaging for food products (col.1, 1.13-18).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strutzel et al (USPN 4,243,074) in view of Julius (USPN 3,329,509).

Regarding claim 7, Strutzel et al teach all that is claimed in claims 1 and 6 as shown above, but fail to teach that the hydrophilic compound is an inorganic salt or salt with an organic anion and an inorganic cation. However, Strutzel et al teach that the hydrophilic substance can be any substance that is compatible with polyamide and teaches that a specific example is polyvinyl alcohol (col.4, 1.7-12). Julius teaches that a hydrophilic compound compatible with polyamide used in the formation of tubular casings for food products is chosen from not only organic polymers such as polyvinyl alcohol, but also inorganic salts such as aluminum silicates (col.2, 1.14-25). One of ordinary skill in the art would have recognized that

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aluminum silicates are well known substitutes for polyvinyl alcohol in the formation of polyamide based tubular casings for food products, as taught by Julius.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to substitute an inorganic salt such as aluminum silicate, as the compatible hydrophilic substance in the film of Strutzel et al, since aluminum silicate and polyvinyl alcohol are known substitutes, as taught by Julius, and one of ordinary skill in the art would select the hydrophilic substance from known and equivalently substitutable substances depending on the intended end result of the film, absent the showing of unexpected result.

Regarding claim 8, Strutzel et al teach all that is claimed in claim 1 as shown above, but fail to teach adding a plasticizer, dye, pigment, or antiblocking or technological additive to the film. However, Julius teaches that it is well known in the art of films forming tubular casings for food products to add fillers, stabilizers, dyes, and/or pigments in order to affect the properties of the film (col.3, 1.7-10). One of ordinary skill in the art would have recognized that the references are analogous insofar as both references are concerned with forming tubular casings for food products.

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Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to add dyes and/or pigments and/or technological additives to the film of Strutzel et al in order to improve the properties of the film, as taught by Julius.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yen (USPN 6,589,615); Rassbach (USPN 4,289,171); Murakami et al (USPN 6,372,339).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Bruenjes whose telephone number is 571-272-1489. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

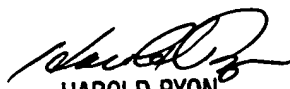
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher P Bruenjes  
Examiner  
Art Unit 1772

CPB  
August 19, 2005

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

8/19/05